SANTA CRUZ BIOTECHNOLOGY, INC.

SF3B3 (D-2): sc-514034

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SF3B is a U2 snRNP-associated protein complex essential for spliceosome assembly. SF3B contains the spliceosomal proteins SAP 49, SAP 130 (also known as SF3B3), SAP 145 and SAP 155. SF3B3, SAP 145 and SAP 155 are present in a protein complex in HeLa nuclear extracts and associate with one another. While SF3B3 and SAP 155 interact with each other (directly or indirectly) within this complex, SAP 49 and SAP 145 are known to interact directly with each other. Unexpectedly, the SAP 49-SAP 145 protein-protein interaction requires the amino-terminus of SAP 49, which contains two RNA-recognition motifs. The observation that SAP 49 and SAP 145 interact directly with both U2 snRNP and the pre-mRNA suggests that this protein complex plays a role in tethering U2 snRNP to the branch site.

REFERENCES

1. Champion-Arnaud, P. and Reed, R. 1994. The prespliceosome components SAP 49 and SAP 145 interact in a complex implicated in tethering U2 snRNP to the branch site. Genes Dev. 8: 1974-1983.
2. Wells, S.E., et al. 1996. CUS1, a suppressor of cold-sensitive U2 snRNA mutations, is a novel yeast splicing factor homologous to human SAP 145. Genes Dev. 10: 220-232.
3. Igel, H., et al. 1998. Conservation of structure and subunit interactions in yeast homologues of splicing factor 3b (SF3b) subunits. RNA 4: 1-10.
4. Das, B.K., et al. 1999. Characterization of a protein complex containing spliceosomal proteins SAPs 49, 130, 145, and 155. Mol. Cell. Biol. 19: 6796-6802.
5. Kramer, A., et al. 1999. Combined biochemical and electron microscopic analyses reveal the architecture of the mammalian U2 snRNP. J. Cell Biol. 145: 1355-1368.
6. LocusLink Report (Locus ID: 23450) http://www.ncbi.nlm.nih.gov/LocusLink

CHROMOSOMAL LOCATION

Genetic locus: SF3B3 (human) mapping to 16q22.1; Sf3b3 (mouse) mapping to 8 E1.

SOURCE

SF3B3 (D-2) is a mouse monoclonal antibody raised against amino acids 388-687 mapping within an internal region of SF3B3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

SF3B3 (D-2) is recommended for detection of SF3B3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

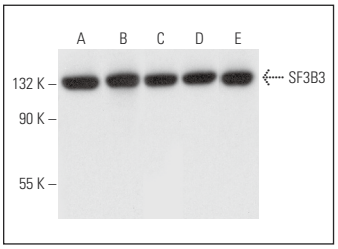
Suitable for use as control antibody for SF3B3 siRNA (h): sc-38314, SF3B3 siRNA (m): sc-38315, SF3B3 shRNA Plasmid (h): sc-38314-SH, SF3B3 shRNA Plasmid (m): sc-38315-SH, SF3B3 shRNA (h) Lentiviral Particles: sc-38314-V and SF3B3 shRNA (m) Lentiviral Particles: sc-38315-V.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or RT-4 whole cell lysate: sc-364257.

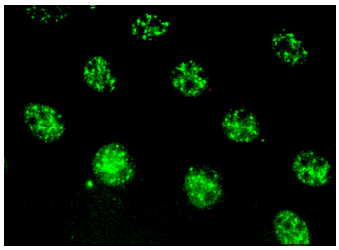
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SF3B3 (D-2): sc-514034. Western blot analysis of SF3B3 expression in Jurkat (**A**), U-937 (**B**), HeLa (**C**) and RT-4 (**D**) whole cell lysates and HeLa nuclear extract (**E**).



SF3B3 (D-2): sc-514034. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wojtuszkiewicz, A., et al. 2016. Exosomes secreted by apoptosis-resistant acute myeloid leukemia (AML) blasts harbor regulatory network proteins potentially involved in antagonism of apoptosis. Mol. Cell. Proteomics 15: 1281-1298.

RESEARCH USE

For research use only, not for use in diagnostic procedures.